Attachment J-1
1998 William M. Mercer IT Compensation Survey

Functional Area 1

Job 006: Information Systems Administration and Planning Manager

Description: Directs the preparation, review and consolidation of corporate, regional, subsidiary and/or divisional information systems budgets and business plans. Ensures adherence to budgets and business plans through periodic review of financial reports and capital appropriation requests. May be responsible for developing, implementing and enforcing policies, standards and methodologies. May be responsible for hardware contract administration and/or outsourcing contract administration and service levels, including negotiation of contract provisions, interface with legal department and maintenance of appropriate documentation. May oversee information systems personnel administration, including selection, training and personnel development. May be responsible for information systems security. Typically reports to the Corporate Information Systems Executive (001, 002).

Job 022: Applications Systems Analyst – Lead

Description: Formulates/defines system scope and objectives based on user defined needs. Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time and form of desired results. Prepares detailed specifications from which programs will be written. Analyzes and revises existing system logic difficulties and documentation as necessary. Has full technical knowledge of all phases of applications systems analysis. May use CASE tools. Also has duties instructing, directing, and checking the work of other systems analysis personnel. Responsible for quality assurance review. Acts as project leader for projects with small budgets or limited duration.

Job 024: Applications Systems Analyst – Senior

Description: Under general direction, formulates/defines system scope and objectives based on user needs. Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time and form of desired results. Prepares detailed specifications from which programs will be written. alyzes and revises existing system logic difficulties and documentation as necessary. Competent to work at the highest technical level of all phases of applications systems analysis activities. May use CASE tools.

Job 026: Applications Systems Analyst – Intermediate

Description: Under general supervision, formulates and defines system scope and objectives through research and fact-finding to develop or modify moderately complex information systems. Prepares detailed specifications from which programs will be written. Analyzes and revises existing system logic difficulties and documentation as necessary. Competent to work on most phases of applications systems analysis activities, but requires instruction and guidance in other phases. May use CASE tools.

Job 027: Applications Systems Analyst – Associate

Description: Under immediate supervision, assists in research and fact-finding to develop or modify information systems. Assists in preparing detailed specifications from which programs will be written. Analyzes and revises existing system logic difficulties and documentation as necessary. This level is staffed by beginners who have had sufficient educational background and/or experience to qualify them to start in applications systems analysis. May use CASE tools.

Job 032: Applications Programmer – Lead

Description: Devises or modifies procedures t solve complex problems considering computer equipment capacity and limitations, operating time and form of desired results. Responsible for program design, coding, testing, debugging and documentation. Has full technical knowledge of all phases of applications programming. Also has duties instructing, directing and checking the work of other programming personnel. Responsible for quality assurance review. Acts as project leader for projects with small budgets or limited duration. Responsible for directing and monitoring the work of team members. Note: This position does not perform systems analysis functions.

Job 034: Applications Programmer – Senior

Description: Under general direction, devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time and form of desired results. Designs, codes, tests, debugs and documents those programs. Competent to work at the highest technical level of all phases of applications programming activities. Note: This position does not perform systems analysis functions.

Job 036: Applications Programmer – Intermediate

Description: Under general supervision, modifies moderately complex applications programs from detailed specification. Codes, tests, debugs and documents and maintains those programs. Competent to work on most phases of applications programming activities, but requires instruction and guidance in phases. Note: This position does not perform systems analysis functions.

Job 037: Applications Programmer - Associate

Description: Under immediate supervision, modifies applications programs from detailed specifications. Codes, tests, debugs, documents and maintains those programs   This level is staffed by beginners who have had sufficient educational background and/or experience to qualify them to start in applications programming. Note: This position does not perform systems analysis functions.

Job 042: Software Systems Engineer – Lead

Description: Formulates/defines specifications for complex software programming applications or modifies/maintains complex existing applications using engineering releases and utilities from the manufacturer. Responsible for program design, coding, testing, debugging and documentation. Usually responsible for applications dealing with the overall operating system, such as sophisticated file maintenance routines, large telecommunications networks, computer accounting and advanced mathematical/scientific software packages. Has full technical knowledge of all phases of software systems programming applications. Also has duties instructing, directing and checking the work of other operating systems programming personnel. Responsible for quality assurance review and the evaluation of new and existing software products. Acts as project leader for projects with small budgets or limited duration.

Job 068: Disaster Recovery Specialist

Description: Responsible for developing, testing and implementing policies and procedures to protect the data and activities of the Information Systems Operations in the event of a disaster of emergency. Updates emergency plans and procedures as needed. Coordinates the use of offsite storage locations and resources needed for recovery operations. May provide data storage/security education and awareness programs.

Job 102: Database Analyst/Programmer – Senior

Description: Under general direction, designs, implements and maintains complex databases with respect to JCL, access methods, access time, device allocation, validation checks, organization, protection and security, documentation, and statistical methods. Includes maintenance of database dictionaries, overall monitoring of standards and procedures, and integration of systems through database design. Competent to work at the highest level of all phases of database management.

Job 122: Documentation Specialist – Senior

Description: Under general direction is responsible for preparing and/or maintaining systems, programming and operations documentation, procedures and methods, including user manuals, reference manuals, etc. Maintains a current internal documentation library. Provides or coordinates special documentation services as required. Competent to work at the highest level of all phases of documentation. May act as project leader for large jobs.

Job 180: Data Security Administration Manager

Description: Directs and implements the necessary controls and procedures to cost-effectively protect information systems assets from intentional or inadvertent modification, disclosure or destruction. Provides guidance and direction for the physical protection of information systems assets to other functional units. Provides reports to superiors regarding effectiveness of data security and makes recommendations for the adoption of new procedures. Assigns work to subordinates, monitors performance, and conducts performance appraisals. Interviews and make recommendations for additional staff. Typically reports to Corporate Information Systems Executive or Director of Information Systems Operations.

Job 181: Data Security Analyst

Description: Under limited supervision, performs all procedures necessary to ensure the safety of information systems assets and to protect systems from intentional or inadvertent access or destruction. Interfaces with user community to understand their security needs and implements procedures to accommodate them. Ensures that user community understands and adheres to necessary procedures to maintain security. Conducts accurate evaluation of the level of security required. Provides management with status reports. Typically reports to Data Security Administration Manager.

Job 202: PC Products Analyst

Description: Analyzes and evaluates micro-computer products and systems available in the marketplace. Analyzes such products for compatibility, expandability and ease of use and support. Recommends to management the support or nonsupport of evaluated products. Participates in the development and customization of products. Designs application options/screens compatible with mainframe applications. Prepares product development documentation regarding use of product. Typically reports to PC Support Manager.

Job 340: Web Project Manager

Description: Serves as project manager of a development team responsible for planning, developing, and deploying web sites including preparation of text, graphics, audio, and video for web pages. Works directly with partners and clients to determine project scope and specifications. Coordinates the work of design and development teams to implement online designs. Reviews progress, manages resources, and ensures overall quality of completed web site. Typically requires a college degree in computer science or related field, experience in management, and understanding of web technologies.

Job 535: Planning and Engineering Manager

Description: Responsible for the selection, direction and performance of telecommunication engineering and analysis studies. Supervises and manages sustained engineering projects, test and evaluation programs, and performs normal engineering services (e.g., transmission, circuit design software). May conduct long-term strategic planning activities for LAN/WAN development and implementation, including transmission media, systems architecture, and general technology guidelines. Analyzes and provides management with information on availability and pricing of telecommunication technology and services. Typically requires the equivalent of a B.S.E.E. with a minimum of 5 years experience in operations, maintenance, and sustained engineering of LAN to WAN internet working. Usually reports to Telecommunications Department Director/Manager (505/507/510).

Job 540: Network Planning Manager

Description: Responsible for long-term strategic planning to ensure network capacity meets current and future network requirements including planning for remote hardware and communications facilities; development and implementation of methodologies for system analysis, installation and support. Defines and develops methodology to ensure compatibility of all software and hardware products at each facility. Provides ongoing coordination in the analysis, acquisition and installation of remote hardware and software. May supervise Network Planning Analysts. Usually requires the equivalent of a B.S. in Computer Science, Math or Engineering and 6-8 years experience. Typically reports to Telecommunications Department Director/Manager (507/510) or Planning and Engineering Manager (535).

Job 570: Data Communications Manager – Planning and Implementation

Description: Ensures that adequate and appropriate planning is provided for remote hardware and communications facilities t develop and implement methodologies for analysis, installation and support of distributed processing client/server systems. Provides coordination in the analysis, acquisition and installation of hardware, software and facilities. Manages the training and efforts of a staff engaged in system and network planning, analysis, and monitoring activities. Usually requires a minimum of 8-10 years experience in software/hardware LAN and

WAN network design and analysis. Typically reports to Telecommunications Department Director/Manager (505/507510) or Planning and Engineering Manager (535).

Job 580: Voice Communications Manager – Planning & Implementation

Description: Ensures that adequate and appropriate planning is provided for remote hardware and communications facilities to develop and implement methodologies for analysis, installation and support of voice communications systems. Provides coordination in the analysis, acquisition and installation of remote hardware and software. Interfaces with internal/external customers and vendors to determine system needs. Manages the training and efforts of a staff responsible for system and network planning and analysis activities. May include billing/chargeback responsibilities. Usually requires a minimum of 8 – 10 years experience in software/hardware voice network design and analysis usually in a telephone operating company. Typically reports to Telecommunications Department Director/Manager (505/507/510) or Planning and Engineering Manager (535).

Job 620 – Network Planning Analyst – Senior

Description: Plans and evaluates complex existing network systems and makes recommendations for resources required to maintain and/or expand service levels. Provides highly skilled technical assistance in network planning, engineering, and architecture. Develops technical standards and interface applications; identifies and evaluates new products; provides resolution for network problems. May interface with vendors to identify and purchase hardware and software. May function as lead position for other Network Planning Analysts. Usually requires the equivalent of a B.S. in Computer Science, Engineering, or Math with a minimum of 6 – 8 years experience in telecom networks. Typically reports to Telecommunications Department Director/Manager (507/510) or Network Planning Jobs (540/550/570/580).

Job 660 – Communications Analyst – Senior

Description: Under general direction, assists in the planning, design and implementation of communications networks. Responsible primarily for the assessment and optimization of network design through review and assessment of user needs, conducts feasibility studies for large projects, develops requests for proposal, evaluates vendor products and makes recommendations on selection. Usually has a minimum of 5 years experience in telecommunications, with strong emphasis in network design, traffic engineering, equipment vendors, and carriers. May function as lead position providing guidance and training to less experienced analysts. Typically reports to Data/Voice Communications Management (570/580) or Internal Communications Systems Consultant (590).

Job 915: Telecommunications Engineer/Analyst – Senior

Description: An individual contributor job, under general direction, which is responsible for complex engineering and/or analytical tasks and activities associated with one or more technical areas within the telecom function (such as, but not limited to, network design, engineering, implementation, or operations/user support). Would usually have a minimum of 6 – 8 years technical telecom experience (assuming a minimum of a related degree or equivalent technical training in addition to the years of experience), supplemented with continuing education network/telecom courses/technical seminars.

Job 3010: Information Services Consultant

Description: Top level technical expert supporting unlimited end user groups. Works with user groups to solve business problems with available technology including advise, hardware, software databases, and peripherals. Has high level of diverse technical experience related to studying and analyzing systems needs, systems development and systems process analysis, design and re-engineering. Has skills and experience related to business management, systems engineering, operations research, and management engineering. Typically has specialization in particular software or business application utilized in an end user environment. Keeps abreast of technological developments and applications.

Job 3020: Internal Communications Systems Consultant

Description: Provides systems guidance for current and proposed investments in telecommunications and network facilities and/or services from the development of communication software through financial implementation review. Researches present and future communications technologies. Works closely with system users to provide direction/assistance in identification and resolution of user problems. May supervise a group of planning analysts responsible for research/technical assistance for the user group. Usually has 8-10 years experience in telecommunications with emphasis on systems analysis, LAN/WAN telecommunications network design, and traffic engineering.

Job 3030: Business Process Consultant

Description: Responsible for most complex systems process analysis, design, and simulation. Has highest level understanding of organization's business systems and industry requirements. Focus is on process analysis and re-engineering, with an understanding of technical problems and solutions as they relate to the current and future business environment. Creates process change by integrating new processes with existing ones, and communicating these changes to impacted Business Systems teams. Recommends and facilitates quality improvement efforts. May lead re-engineering team and act as project manager in some cases.

Job 3050: Client/Server Network Architect

Description: Top level technical expert responsible for design and development of a client/server environment. Develops strategy of client/server system and the design infrastructure necessary to support that strategy. Advises on selection of technological purchases with regards to processing, data storage, data access and applications development. Sets standards for the client/server relational database structure for the organization (SQL, ORACLE, SYBASE, etc.). Advises of feasibility of potential future projects to management.

Job 3060: Software Architect

Works independently designing and developing new software products or major enhancements to existing software. May lead a large development team in design of highly complex software systems. Acts as highest level technical expert, addressing problems of systems integration, compatibility, and multiple platforms. Responsible for project completion. Performs feasibility analysis on potential future projects to management.

Job 3080: Groupware Specialist

Description: Responsible for the implementation, maintenance, and support of company messaging systems. May work closely with first tier support staff to solve system problems. Ensures smooth integration of all groupware systems in a particular environment. Provides technical support on local groupware replication and client dial-up access issues. Prepares documentation that will assist in the maintenance of the groupware system. May serve as an internal consultant to developers, assisting them in the area of server supports, security, ID files, and other development issues that will aid the process. Has solid working knowledge of WANs, LANs, and telecommunication concepts as they relate to the groupware system and database replication.

Job 3130: Business Systems Specialist

Description: Top level technical contributor with expertise in particular business processes responsible for formulating systems scope and objectives relative to the organization's business plan and industry requirements. Acts independently or as a member of a project team responsible for providing technical guidance concerning the business implications of the application of various systems. Provides technical consulting on complex projects. Devises and/or modifies procedures to solve the most complex technical problems related to computer equipment capacity and limitations, operating time, and form of desired results. Creates detailed specifications from which programs will be written. May have quality assurance responsibilities.

Job 3132: Business Systems Analyst – Lead

Description: Formulates and defines systems scope and objectives based on both user needs and a thorough understanding of business systems and industry requirements. Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operation time, and form of desired results. Includes analysis of business and user needs, documentation of requirements, and translation into proper system requirement specifications. Not only possesses full technical knowledge of most phases of systems analysis, but also considers the business implications of the application of technology to the current and future business environment. Also has duties of instructing, directing and checking the work of business systems analysis personnel. Acts as a team leader for projects with moderate budgets or of a short to intermediate duration.

Job 3133: Business Systems Analyst – Senior

Description: Under general direction, formulates and defines systems scope and objectives based on both user needs and a good understanding of applicable business systems and industry requirements. Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time, and form of desired results. Includes analysis of business and user needs, documentation of requirements, and translation into proper system requirement specifications. Guides and advises less experienced Business Systems Analysts. Competent to work at the highest technical level of most phases of systems analysis while considering the business implications of the application of technology to the current and future business environment.

Job 3134: Business Systems Analyst – Intermediate

Description: Under general supervision, formulates and defines systems scope and objectives through research and fact-finding combined with an understanding of applicable business systems and industry requirements. With this knowledge, develops or modifies moderately complex information systems. Includes analysis of business and user needs, documenting requirements, and revising existing system logic difficulties as necessary. Guides and advises less experienced Business Systems Analysts. Competent to work in some phases of systems analysis and considers the business implications of the application of technology to the current business environment.

Job 3135: Business Systems Analyst – Associate

Description: Under direct supervision, assists in formulating and defining systems scope and objectives through research and fact-finding combined with a basic understanding of business systems and industry requirements. Includes analysis of business and user needs, documenting requirements, and revising existing system logic difficulties as necessary under direction of experienced Business System Analysts. Competent to consider most business implications of the application of technology to the current business environment.

Job 3152: Software Developer-Lead

Description: Under general direction, has full technical knowledge and thorough understanding of business application of the project. Also has duties of instructing, assigning, directing, and checking the work of other software developers on an assigned development team. Assists in scheduling and coordinating projects. May be involved in design phase of project as well. Works with customers and technical staff to resolve problems with software and responds to suggestions for improvements and enhancements. Acts as team leader on projects. Participates in development of software user manuals.

Job 3175: LAN/WAN Integrator

Description: Responsible for the overall integration of the enterprise-wide network including the planning, design, installation, maintenance, management, and coordination of the corporate LAN/WAN (may include local, metropolitan, and wide area networks). Has responsibility for technical architecture and recommendations related to LAN/WAN. Is typically a top level technical contributor with advanced knowledge and experience in the area of local and wide area networking, communications, and related hardware/software. Maintains high level of technical expertise and studies vendor products to determine those which best meet company needs. Presents information to management which may result in the purchase and installation of hardware, software, and telecommunication equipment. Recommends network security procedures and policies. Knowledgeable in a multi-platform operating environment. May work with Voice and/or Data Communications Analysts.

Functional Area 2

Job 011: Applications Systems Analysis and Programming Supervisor

Description: Supervises activities of all applications systems analysis and programming personnel for a major project, several smaller projects, or a small department. Responsible for quality assurance. Makes decisions on personnel actions (hiring, terminations, promotions, etc.). Controls revenues and/or expenses within an operating unit and responsible for meeting budget goals and objectives. Provides input to policy level direction regarding standards, budget constraints, etc. Typically reports to Applications Systems Analysis and Programming Manager (010), Applications Systems Analysis and Programming Director (009) or Systems Analysis and Programming Director (008).

Job 012: Applications Systems Analyst/Programmer – Lead

Description: Formulates/defines system scope and objectives for assigned projects. Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time and form of desired results. Prepares detailed specifications from which programs will be written. Responsible for program design, coding, testing, debugging and documentation. Has

full technical knowledge of all phases of applications systems analysis and programming. Has good understanding of the business or function for which applications is designed. Also has duties instructing, directing, and checking the work of other systems analysis and programming personnel. Responsible for quality assurance review. Responsible for directing and monitoring the work of team members. May be responsible for project completion and user satisfaction.

Job 014: Applications Systems Analyst/Programmer - Senior

Description: Under general direction, formulates/defines system scope and objectives. Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time and form of desired results. Prepares detailed specifications from which programs will be written. Designs, codes, tests, debugs and documents these programs. Competent to work at the highest technical level of all phases of applications systems analysis and programming activities. May be responsible for completion of a phase of a project. Regularly provides guidance and training to less experienced analyst/programmers.

Job 016: Applications Systems Analyst/Programmer – Intermediate

Description: Under general supervision, formulates and defines system scope and objectives through research and fact-finding to develop or modify moderately complex information systems. Prepares detailed specifications from which programs will be written. Designs, codes, tests, debugs, documents and maintains those programs. Competent to work on most phases of applications systems analysis activities, but requires instruction and guidance in other phases.

Job 017: Applications Systems Analyst/Programmer - Associate

Description: Under immediate supervision, assists in research and fact-finding to develop or modify information systems. Assists in preparing detailed specifications from which programs will be written. Designs, codes, tests, debugs, documents and maintains those programs. Staffed by beginners who have had sufficient educational background and/or experience to qualify them to start in applications systems analysis and programming.

Job 031: Applications Programming Supervisor

Description: Supervises activities of applications programming personnel for a major project, several smaller projects, or a small department. Responsible for quality assurance. Makes decisions on personnel actions (hiring, terminations, promotions, etc.). Controls revenues and/or expenses within operating unit and responsible for meeting budget goals and objectives. Provides input to policy level direction regarding standards, budget constraints, etc.

Job 032: Applications Programmer – Lead

Description: Devises or modifies procedures t solve complex problems considering computer equipment capacity and limitations, operating time and form of desired results. Responsible for program design, coding, testing, debugging and documentation. Has full technical knowledge of all phases of applications programming. Also has duties instructing, directing and checking the work of other programming personnel. Responsible for quality assurance review. Acts as project leader for projects with small budgets or limited duration. Responsible for directing and monitoring the work of team members. Note: This position does not perform systems analysis functions.

Job 034: Applications Programmer – Senior

Description: Under general direction, devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time and form of desired results. Designs, codes, tests, debugs and documents those programs. Competent to work at the highest technical level of all phases of applications programming activities. Note: This position does not perform systems analysis functions.

Job 036: Applications Programmer – Intermediate

Description: Under general supervision, modifies moderately complex applications programs from detailed specification. Codes, tests, debugs and documents and maintains those programs. Competent to work on most phases of applications programming activities, but requires instruction and guidance in phases. Note: This position does not perform systems analysis functions.

Job 037: Applications Programmer - Associate

Description: Under immediate supervision, modifies applications programs from detailed specifications. Codes, tests, debugs, documents and maintains those programs   This level is staffed by beginners who have had sufficient educational background and/or experience to qualify them to start in applications programming. Note: This position does not perform systems analysis functions.

Job 041: Software Systems Engineering Supervisor

Description: Supervises activities of all software systems programming personnel for a major project, several smaller projects, or a small department. Responsible for quality assurance. Makes decisions on personnel actions (hiring, terminations, promotions, etc.). Controls revenues and/or expenses within operating unit and responsible for meeting budget goals and objectives. Provides input to policy level direction regarding standards, budget constraints, etc.

Job 042: Software Systems Engineer – Lead

Description: Formulates/defines specifications for complex software programming applications or modifies/maintains complex existing applications using engineering releases and utilities from the manufacturer. Responsible for program design, coding, testing, debugging and documentation. Usually responsible for applications dealing with the overall operation system, such as sophisticated file maintenance routines, large telecommunications networks, computer accounting and advanced mathematical/scientific software packages. Has full technical knowledge of all phases of software systems programming applications. Also has duties instructing, directing and checking the work of other operating systems programming personnel. Responsible for quality assurance review and the evaluation of new and existing software products. Acts as project leader for projects with small budgets or limited duration.

Job 044: Software Systems Engineer - Senior

Description: Under general direction, formulates/defines specifications for complex operating software programming applications or modifies/maintains complex existing applications using engineering releases and utilities from the manufacturer. Designs, codes, tests, debugs and documents those programs. Usually responsible for applications dealing with the overall operating system, such as sophisticated file maintenance routines, large telecommunications networks, computer accounting and advanced mathematical/scientific software packages. Competent to work at the highest technical level on all phases of software systems programming. May assist other systems programmers to effectively utilize the system's technical software.

Job 046: Software Systems Engineer – Intermediate

Description: Under general supervision, works from specifications to develop or modify moderately complex software programming applications. Assists with design, coding, benchmark testing, debugging and documentation of programs. Applications generally deal with utility programs, job control language, macro, subroutines and other control modules. Competent to work on most phases of software systems programming applications, but requires instruction and guidance in other phases.

Job 047: Software Systems Engineer – Associate

Description: Under immediate supervision, works from specifications to assist in developing and modifying operating software programming applications. Assists with design, coding, benchmark testing, debugging and documentation of programs. Applications generally deal with utility programs, job control language, macros, subroutines and other control modules. May customize purchased applications and assist in maintaining program libraries and technical manuals. Staffed by beginners who have had sufficient educational background and/or experience to qualify them to start in operating systems programming.

Contract Job No. 9000 Scientist/Engineer - Senior

- Ten (10) years of intensive and progressive experience in the areas of a specified discipline. Three (3) of the seven (7) years must reflect current technologies and have occurred within the last five (5) calendar years.
- Four (4) years with the last eight (8) calendar years of intensive and progressive experience in independent or supervisory performance on substantive scientific/engineering projects.
- One (1) year within the last two (2) calendar years of intensive and progressive experience in managing complex engineering/scientific projects.
- If proposed as a Task Leader, 18 months experience in supervising engineers/scientists/technical personnel in an environment of significant systems development activity.

Education and Other Requirements.
Additional Degree requirements and/or specialized experience may be cited in the individual Task Order. A masters or doctorate degree from an accredited college or university with a major in a field of study which is closely related to the work to be performed may be substituted on the basis on one (1) year experience for a Masters Degree and two (2) years experience for a doctorate Degree.

Duties.
Performs high-level systems analysis, evaluation, design, integration, documentation, and implementation of very complex application which require a thorough knowledge of administrative, and technical skills. Directs and participates in all phases of system development with emphasis on planning, analysis, evaluation, integration, testing and acceptance phases (IV&V and DT&E). Applies higher level business or technical principles and methods to very difficult technical problems to arrive at automated engineering solution. Designs and prepares technical reports and related documentation, and makes charts and graphs to record results. Prepare and deliver presentations and briefings as required by the Task Order. May be required to serve as Task Leader. Responsible for ensuring the quality and services delivered for particular task(s) for which this skill is performing the Task Leader position.

Contract Job No. 9001: Scientist/Engineer - Intermediate

- Five (5) years experience in scientific/engineering projects. One (1) year within the last three (3) calendar years of experience in the specific area noted in the Task Order. A masters or doctorate degree from an accredited college or university with a major in a field of study which is closely related to the work to be performed may be substituted on the basis of one (1) year experience for a Masters Degree and two (2) years experience for a Doctorate Degree.

Education and Other Requirements.
Additional Degree requirements and/or specialized experience may be cited in the individual Task Order. A masters or doctorate degree from an accredited college or university with a major in a field of study which is closely related to the work to be performed.

Duties.
Performs assigned portions of engineering/scientific projects such as analysis, design, integration, applications which require a thorough knowledge of higher mathematics and related engineering/scientific skills and knowledge. Participates in all phases of scientific & engineering projects such as design, development, testing, training, documentation. May have responsibility for assisting in planning and have individual responsibility for portions of a engineering/scientific project.

Contract Job No. 218: Scientist/Engineer - Associate
-   Entry level position

Education and Other Requirements.
Baccalaureate in a closely related field to the requirement in the Task Order.

Duties.
Under the supervision of a senior or associate engineer performs assigned portions of engineering/scientific projects such as analysis, design, integration, applications which require a thorough knowledge of higher mathematics and related engineering/scientific skills and knowledge. Participates in all phases of scientific & engineering projects such as design, development, testing, training, documentation.

Functional Area 3

Job 011: Applications Systems Analysis and Programming Supervisor

Description: Description: Supervises activities of all applications systems analysis and programming personnel for a major project, several smaller projects, or a small department. Responsible for quality assurance. Makes decisions on personnel actions (hiring, terminations, promotions, etc.). Controls revenues and/or expenses within an operating unit and responsible for meeting budget goals and objectives. Provides input to policy level direction regarding standards, budget constraints, etc. Typically reports to Applications Systems Analysis and Programming Manager (010), Applications Systems Analysis and Programming Director (009) or Systems Analysis and Programming Director (008).

Job 012: Applications Systems Analyst/Programmer – Lead

Description: Formulates/defines system scope and objectives for assigned projects. Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time and form of desired results. Prepares detailed specifications from which programs will be written. Responsible for program design, coding, testing, debugging and documentation. Has full technical knowledge of all phases of applications systems analysis and programming. Has good understanding of the business or function for which applications is designed. Also has duties instructing, directing, and checking the work of other systems analysis and programming personnel. Responsible for quality assurance review. Responsible for directing and monitoring the work of team members. May be responsible for project completion and user satisfaction.

Job 014: Applications Systems Analyst/Programmer - Senior

Description: Under general direction, formulates/defines system scope and objectives. Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time and form of desired results. Prepares detailed specifications from which programs will be written. Designs, codes, tests, debugs and documents these programs. Competent to work at the highest technical level of all phases of applications systems analysis and programming activities. May be responsible for completion of a phase of a project. Regularly provides guidance and training to less experienced analyst/programmers.

Job 016: Applications Systems Analyst/Programmer – Intermediate

Description: Under general supervision, formulates and defines system scope and objectives through research and fact-finding to develop or modify moderately complex information systems. Prepares detailed specifications from which programs will be written. Designs, codes, tests, debugs, documents and maintains those programs. Competent to work on most phases of applications systems analysis activities, but requires instruction and guidance in other phases.

Job 017: Applications Systems Analyst/Programmer - Associate

Description: Under immediate supervision, assists in research and fact-finding to develop or modify information systems. Assists in preparing detailed specifications from which programs will be written. Designs, codes, tests, debugs, documents and maintains those programs. Staffed by beginners who have had sufficient educational background and/or experience to qualify them to start in applications systems analysis and programming.

Job 031: Applications Programming Supervisor

Description: Supervises activities of applications programming personnel for a major project, several smaller projects, or a small department. Responsible for quality assurance. Makes decisions on personnel actions (hiring, terminations, promotions, etc.). Controls revenues and/or expenses within operating unit and responsible for meeting budget goals and objectives. Provides input to policy level direction regarding standards, budget constraints, etc.

Job 032: Applications Programmer – Lead

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Job 034: Applications Programmer – Senior

Description: Under general direction, devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time and form of desired results. Designs, codes, tests, debugs and documents those programs. Competent to work at the highest technical level of all phases of applications programming activities. Note: This position does not perform systems analysis functions.

Job 036: Applications Programmer – Intermediate

Description: Under general supervision, modifies moderately complex applications programs from detailed specification. Codes, tests, debugs and documents and maintains those programs. Competent to work on most phases of applications programming activities, but requires instruction and guidance in phases. Note: This position does not perform systems analysis functions.

Job 037: Applications Programmer - Associate

Description: Under immediate supervision, modifies applications programs from detailed specifications. Codes, tests, debugs, documents and maintains those programs   This level is staffed by beginners who have had sufficient educational background and/or experience to qualify them to start in applications programming. Note: This position does not perform systems analysis functions.

Job 041: Software Systems Engineering Supervisor

Description: Supervises activities of all software systems programming personnel for a major project, several smaller projects, or a small department. Responsible for quality assurance. Makes decisions on personnel actions (hiring, terminations, promotions, etc.). Controls revenues and/or expenses within operating unit and responsible for meeting budget goals and objectives. Provides input to policy level direction regarding standards, budget constraints, etc.

Job 042: Software Systems Engineer – Lead

Description: Formulates/defines specifications for complex software programming applications or modifies/maintains complex existing applications using engineering releases and utilities from the manufacturer. Responsible for program design, coding, testing, debugging and documentation. Usually responsible for applications dealing with the overall operation system, such as sophisticated file maintenance routines, large telecommunications networks, computer accounting and advanced mathematical/scientific software packages. Has full technical knowledge of all phases of software systems programming applications. Also has duties instructing, directing and checking the work of other operating systems programming personnel. Responsible for quality assurance review and the evaluation of new and existing software products. Acts as project leader for projects with small budgets or limited duration.

Job 044: Software Systems Engineer - Senior

Description: Under general direction, formulates/defines specifications for complex operating software programming applications or modifies/maintains complex existing applications using engineering releases and utilities from the manufacturer. Designs, codes, tests, debugs and documents those programs. Usually responsible for applications dealing with the overall operating system, such as sophisticated file maintenance routines, large telecommunications networks, computer accounting and advanced mathematical/scientific software packages. Competent to work at the highest technical level on all phases of software systems programming. May assist other systems programmers to effectively utilize the system's technical software.

Job 046: Software Systems Engineer – Intermediate

Description: Under general supervision, works from specifications to develop or modify moderately complex software programming applications. Assists with design, coding, benchmark testing, debugging and documentation of programs. Applications generally deal with utility programs, job control language, macro, subroutines and other control modules. Competent to work on most phases of software systems programming applications, but requires instruction and guidance in other phases.

Job 047: Software Systems Engineer – Associate

Description: Under immediate supervision, works from specifications to assist in developing and modifying operating software programming applications. Assists with design, coding, benchmark testing, debugging and documentation of programs. Applications generally deal with utility programs, job control language, macros, subroutines and other control modules. May customize purchased applications and assist in maintaining program libraries and technical manuals. Staffed by beginners who have had sufficient educational background and/or experience to qualify them to start in operating systems programming.

Job 052: Computer Operations Shift Manager

Description: Responsible for the operation of one or more shifts. Supervises personnel in computer operations, data entry, data control, and operations support functions. Assigns personnel, directs their work and evaluates operational performance. Has daily responsibilities for problem/change management as related to computer operations procedures and control mechanisms. Responsible for quality assurance and security. Typically reports to Information Systems Operations Manager.

Job 054: Production Control Supervisor

Responsible for all production control/support activities, including scheduling, JCL set up, data entry, data control, tape library and possibly operations documentation. Monitors and improves production procedures. Assigns personnel to the various operations and directs their activities; reviews and evaluates their work and prepares performance reports. Prepares activity and progress reports regarding the production control section activities. Typically reports to the IS Operations Manager.

Job 61: Computer Operations Manager

Responsible for all activities relating to the operation of centralized data processing equipment and peripheral information system equipment. Establishes detailed schedules for the utilization of all equipment in the computer operations section to obtain maximum utilization. Assigns personnel to various operations and directs their activities; reviews and evaluates their work and prepares performance reports. Confers with and advises subordinates on administrative policies and procedures, technical problems, priorities and methods. Consults with personnel in other information systems sections to coordinate activities. Prepares activity and progress reports regarding the computer operations section. Normally reports to Director of Information Systems Operations.

Job 62: Computer Operations Supervisor

Supervises the activities of all regularly assigned computer operations personnel. Typically makes decisions on personnel actions (hiring, terminations, promotions, etc.) Receives policy level direction regarding standards, budgetary constraints, etc.

Job 63: Computer Operator – Lead

Works under general direction, has full technical knowledge of computer operations, but also has duties of instructing, directing and checking the work of other computer operators. Assists in operations scheduling. May assume responsibilities of supervisor in their absence.

Job 64: Computer Operator – Senior

Under general direction, monitors and controls one or more mini or mainframe computers by operating the central console or on-line terminals. Studies program operating instruction sheets to determine equipment setup and run operations. Continuously observes the operation of the console panel, storage devices, printers, and the action of the console printer to monitor the system and determine the point of equipment or program failure. Manipulates controls in accordance with standard procedures to rearrange sequence of job steps to continue operations when individual units of the system malfunction. Confers with software systems engineering or applications programming personnel in the event errors require a change of instructions or sequence of operations. Maintains operating records such as machine performance and production reports. Competent to work at the highest level of all computer operations phases.

Job 66: Computer Operator – Intermediate

Under general supervision, monitors and controls a computer by operating the central console or on-line terminals. May operate auxiliary equipment directly associated with the computer. May maintain records regarding output units and supply inventories. May assist in manipulating controls to rearrange sequence of job steps to continue operations when individual units of the system malfunction. Competent to work on most phases of computer operations, but still may require some instruction and guidance for other phases.

Job 67: Computer Operator - Associate

Under immediate supervision, assists in performing routine tasks associated with operating a computer in accordance with detailed instructions. This level is staffed by beginners who have had sufficient educational background and/or experience to qualify them to start in computer operations.

Job 71: Data Entry Supervisor

 Supervises all data entry activities. Assigns work to personnel and directs their activities; reviews and evaluates their work and prepares performance reports. Normally reports to the Computer Operations Manager or Production Control Supervisor. Note: If incumbent also supervises data control activities, Production Control Supervisor.

Job 72: Data Entry Operator – Lead

Under general direction, has full technical knowledge of data entry devices, but has duties of instructing, directing and checking the work of other data entry operators. Assists in scheduling data entry functions.

Job 73: Data Entry Operator – Senior

Under general direction, operates data entry devices in recording a variety of data; verifies data entered; performs related clerical duties.

Job 74: Data Entry Operator

Under direct supervision, operates data entry devices in recording a variety of data; verifies data entered; performs related clerical duties.

Job 90: Systems Administrator

Responsible for installing, configuring, and maintaining Unix workstations and servers, including Web servers in support of business processing requirements. Performs software installations and upgrades to Unix operating systems and layered software packages. Schedules installations and upgrades and maintain them in accordance with established IS policies, procedures and SLAs. Monitors and tunes the system to achieve optimum level of performance. Ensures Unix workstation/server data integrity by evaluating, implementing and managing appropriate software and hardware solutions. Ensures data/media recoverability by implementing a schedule of system backups and database archive operations. Supports media management through internal methods and procedures or through offsite storage and retrieval services. Develops and promotes standard operating procedures. Conducts routine hardware and software audits of Unix workstations and servers for compliance with established standards, policies, configuration guidelines and procedures. Develops and maintain a comprehensive Unix hardware and software configuration database/library of all supporting documentation.

Job 101: Database Manager/Administrator

Responsible for all activities related to the administration of computerized databases. Assigns personnel to various projects and directs their activities; reviews and evaluates their work and prepares performance reports. Confers with and advises subordinates on administrative policies and procedures, technical problems, priorities and methods. Consults with and advises users of the various databases. Projects long-range requirements for database administration and design in conjunction with other managers in the information systems function. Prepares activity and progress reports regarding the database management section. Normally reports to the Corporate Information Systems Executive, Divisional Information Systems Executive or Director of Information Systems Operations.

Job 102: Database Analyst/Programmer – Senior

Under general direction, designs, implements and maintains complex databases with respect to JCL, access methods, access time, device allocation, validation checks, organization, protection and security, documentation, and statistical methods. Includes maintenance of database dictionaries, overall monitoring of standards and procedures, and integration of systems through database design. Competent to work at the highest level of all phases of database management.

Job 104: Database Analyst/Programmer – Intermediate

Under general supervision, designs, implements, and maintains moderately complex databases. Includes maintenance of database dictionaries and integration of systems through database design. Competent to work on most phases of database administration, but may require some instruction and guidance in other phases.

Job 105: Database Analyst/Programmer – Associate

Under immediate supervision, assists in the implementation and maintenance of databases. This level is staffed by beginners who have had sufficient educational background and/or experience to qualify them to start in database management.

Job 107: Data Administrator

Responsible for quality control and auditing of databases to ensure accurate and appropriate use of data. Works with management to develop database strategies to support company's needs. Consults with and advises users of the various databases. Works directly with users of data to resolve data conflicts and inappropriate data usage. Identifies opportunities for effectively satisfying corporate information needs through automation. Directs the maintenance and use of the corporate data dictionary. Normally reports to Database Manager/Administrator.

Job 122: Documentation Specialist – Senior

Under general direction, is responsible for preparing and/or maintaining systems, programming and operations documentation, procedures and methods, including user manuals, reference manuals, etc. Maintains a current internal documentation library. Provides or coordinates special documentation services as required. Competent to work at the highest level of all phases of documentation. May act as project leader for large jobs.

Job 143: Information Systems Training Specialist

Under general supervision, organized and conducts moderately complex training and educational programs for information systems or user personnel. Maintains records of training activities, employee progress and program effectiveness. Competent to work on most phases of information systems training.

Job 160: Information Center Manager

Responsible for all information center related activities. Surveys market for new user-friendly software products, selects products and coordinates installation and implementation. Prepares procedures for documentation and training on these products for users. Surveys market for personal computers, mini-computers and decision support systems to review applicability to the organization. Makes decisions on personnel actions (hiring, terminations, promotions, etc.). May report to Director of Information Systems Operations.

Job 190: Help Desk Manager

Has overall responsibility for help desk staff and the activities associated with the identification, prioritization, and resolution of reported problems. Ensures that all phases of help desk support are properly coordinated, monitored, logged, tracked and resolved appropriately. May maintain responsibility for development, maintenance and integrity of help desk software. Assigns personnel to various operations and directs their activities; reviews and evaluates their work and prepares performance reports.

Job 193: Help Desk Coordinator – Senior

Under general direction of the Help Desk Manager, is responsible for ensuring the timely process through which problems are controlled. Includes problem recognition, research, isolation, resolution and follow-up steps. Requires experience and understanding of MIS environment. Is able to resolve less complex problems immediately, while more complex problems are assigned to second level support or supervisor. Typically involves use of problem management database and help desk system. May provide guidance/training for less experienced personnel.

Job 195: Help Desk Coordinator

Under immediate direction of the Help Desk Manager or senior help desk personnel, responds to and diagnoses problems through discussions with users. Includes problem recognition, research, isolation and resolution steps. Typically is able to resolve less complex problems immediately, while more complex problems are assigned to second level support, senior operator or supervisor. May involve use of problem management database and help desk systems.

Job 200: PC Support Manager

Responsible for overall personal computer activity. Establishes and implements PC policies, procedures and standards, and ensures their conformance with information systems goals and procedures. Studies and projects PC resource requirements including personnel, software, equipment and facilities and makes recommendations to management. Maintains currency in new developments and technology. Provides for the training of department staff and end users. Directs setup and maintenance of library and materials for end user reference and reviews department staff. Ensures that security procedures are implemented and enforced. Provides leadership in the effective use of internal data processing, automated office systems and data communications. May also manage LAN services. Typically reports to the Corporate Information Systems Executive or Director of IS Operations.

Job 201: PC Systems Specialist

Under general supervision, performs analytical, technical and administrative work in the planning, design and installation of new and existing personal computer systems. Works on moderately complex applications. Confers with end users to determine types of hardware and software required. Writes programs to fulfill requirements or selects appropriate off-the-shelf software and modifies to suit. May maintain or utilize telecommunications protocols. Installs new hardware and maintains existing hardware. Trains end users in use of equipment and software. Typically reports to PC Support Manager or LAN Manager.

Job 203: LAN Administrator

Responsible for the acquisition, installation, maintenance and usage of the company's local area network. Studies vendor products to determine those which best meet company needs; assists in presentation of information to management resulting in purchase and installation of hardware, software, and telecommunication equipment. Manages LAN performance and maintains LAN security. Ensures that security procedures are implemented and enforced. Installs all network software. Evaluates, develops and maintains telecommunications systems. Troubleshoots LAN problems. Establishes and implements LAN policies, procedures and standards and ensures their conformance with information systems and company's objectives. Trains users on LAN operation. Typically reports to PC Support Manager or an information systems executive.

Job 204: PC Systems Support Assistant

Under direct supervision, performs general tasks to aid in the ongoing support of micro environments. May perform LAN/hard disk backups; assists with end user questions and problems. May work on simple applications. Installs software and peripherals, may also troubleshoot basic hardware problems. Conducts research on new technology as requested. Typically reports to PC Support Manager or LAN Administrator.

Job 205: PC Maintenance Technician

Performs general maintenance tasks, troubleshoots and repairs computer systems and peripheral equipment located throughout the organization. Maintains an adequate spare parts inventory of systems, subsystems, and component parts used in repair work. Prepares progress reports for all work performed. Receives work direction from supervisor on work priorities and daily assignments. Typically reports to PC Support Manager.

Job 213: Graphics Specialist

Responsible for graphics design and use, operation and setup of computer graphic systems for business communications. Executes graphic projects and assists in coordination of all graphic production scheduling; coordinates production support with outside vendors, as needed. Ensures that graphic projects are completed on time, within budget and to user's satisfaction. Interfaces with users to determine scope of project and best graphic medium. Trains other personnel in proper use of computer graphic equipment. Troubleshoots computer equipment problems and performs minor preventive maintenance. Typically reports to department manager or information systems management.

Job 340: Web Project Manager

Serves as project manager of a development team responsible for planning, developing, and deploying web sites including preparation of text, graphics, audio, and video for web pages. Works directly with partners and clients to determine project scope and specifications. Coordinates the work of design and development teams to implement online designs. Reviews progress. Manages resources, and ensures overall quality of completed web site. Typically requires a college degree in computer science or related field, experience in management, and understanding of web technologies.

Job 345: Web Designer

Designs and builds web pages using a variety of graphics software applications, techniques, and tools. Designs and develops user interface features, site animation, and special-effects elements. Contributes to the design group's efforts to enhance the look and feel of the organization's online offerings. Designs the website to support the organization's strategies and goals relative to external communications. Typically requires a college degree in fine arts or graphic design. Requires understanding of web-based technologies and thorough knowledge of HTML, PhotoShop, Illustrator, and/or other design-related applications.

Job 350: Web Software Developer

Designs, develops, troubleshoots, debugs, and implements software code (such as HTML, CGI, and Javascript) for a component of the website. Works with graphic designers and other members of a project team to develop the site concept, interface design, and architecture of the website. Responsible for interface implementation. Requires strong navigation and site-design instincts. Typically requires college degree in computer science or related field, and developmental experience in web-based languages.

Job 355: Web Technical Administrator

In role of onsite administrator, responsible for achieving overall technical integrity of organization's website. Maintains and upgrades hardware and software including website technical architecture related to hardware and telecommunication connectivity. Administers e-mail, chat, and FTP services. Communicates router configuration changes and troubleshoots system errors and bugs. Maintains servers, creates monitoring reports and logs, and ensures functionality of links. Monitors site for acceptable performance and user accessibility. Establishes backups and monitors site security. Typically requires college degree in computer science or related field and experience in systems technologies.

Job 360: Web Content Administrator

Responsible for developing and providing content that will motivate and entertain users so that they regularly access the website and utilize it as a major source for information and decision making. Responsible for managing/performing website editorial activities including gathering and researching information that enhances the value of the site. Locates, negotiates, and pursues content. Seeks out customers to gather feedback for website improvement and enhancements. Typically requires a college degree in English, Journalism, Graphic Design, Communications, or related field. Requires experience in production management, web page design, HTML, and web graphics types and standards.

Job 365: Web Security Administrator

Under limited supervision, performs all procedures necessary to ensure the safety of the organization's website and transactions across the internet. Applies Internet Firewall technologies to maintain security. Ensure that the user community understands and adheres to necessary procedures to maintain security.

Job 640: LAN Support Technician – Senior

Monitors and responds to complex technical control facility hardware and software problems utilizing a variety of hardware and software testing tools and techniques. Provides primary interface with vendor support service groups or provides internal analysis and support to ensure proper escalation during outages or periods of degraded system performance. May provide LAN server support. Requires extensive knowledge of PC/LAN communications hardware/software in a multi-protocol environment, and network management software. May function as lead job providing guidance and training for less experienced technicians. Requires a minimum of 4 years experience in data communications troubleshooting.

Job 642: LAN Support Technician – Intermediate

Monitors and responds to technical control facility hardware and software problems utilizing hardware and software testing tools and techniques. May interface with vendor support service groups to ensure proper escalation during outages or period of degraded system performance. May assist with installation of terminals and associated hardware. May provide LAN server support. Requires strong knowledge of PC/LAN communications hardware/software, in a multi-protocol environment, and network management software. Usually requires a 2 – 4 years experience in data communications troubleshooting.

Job 644: LAN Support Technician – Associate

Assists in monitoring and responding to technical control facility hardware and software problems utilizing hardware and software testing tools and techniques. May provide LAN server support. May assist with installation of terminals and associated hardware. Requires knowledge of data scopes, patch panels, modems, concentrators, and associated terminals and network management software. Usually requires a minimum of 1 year experience in data communications troubleshooting or network control activities.

Functional Area 4

Job 011: Applications Systems Analysis and Programming Supervisor

Description: Description: Supervises activities of all applications systems analysis and programming personnel for a major project, several smaller projects, or a small department. Responsible for quality assurance. Makes decisions on personnel actions (hiring, terminations, promotions, etc.). Controls revenues and/or expenses within an operating unit and responsible for meeting budget goals and objectives. Provides input to policy level direction regarding standards, budget constraints, etc. Typically reports to Applications Systems Analysis and Programming Manager (010), Applications Systems Analysis and Programming Director (009) or Systems Analysis and Programming Director (008).

Job 012: Applications Systems Analyst/Programmer – Lead

Description: Formulates/defines system scope and objectives for assigned projects. Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time and form of desired results. Prepares detailed specifications from which programs will be written. Responsible for program design, coding, testing, debugging and documentation. Has full technical knowledge of all phases of applications systems analysis and programming. Has good understanding of the business or function for which applications is designed. Also has duties instructing, directing, and checking the work of other systems analysis and programming personnel. Responsible for quality assurance review. Responsible for directing and monitoring the work of team members. May be responsible for project completion and user satisfaction.

Job 014: Applications Systems Analyst/Programmer - Senior

Description: Under general direction, formulates/defines system scope and objectives. Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time and form of desired results. Prepares detailed specifications from which programs will be written. Designs, codes, tests, debugs and documents these programs. Competent to work at the highest technical level of all phases of applications systems analysis and programming activities. May be responsible for completion of a phase of a project. Regularly provides guidance and training to less experienced analyst/programmers.

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Job 016: Applications Systems Analyst/Programmer – Intermediate

Description: Under general supervision, formulates and defines system scope and objectives through research and fact-finding to develop or modify moderately complex information systems. Prepares detailed specifications from which programs will be written. Designs, codes tests, debugs, documents and maintains those programs. Competent to work on most phases of applications systems analysis activities, but requires instruction and guidance in other phases.

Job 017: Applications Systems Analyst/Programmer - Associate

Description: Under immediate supervision, assists in research and fact-finding to develop or modify information systems. Assists in preparing detailed specifications from which programs will be written. Designs, codes, tests, debugs, documents and maintains those programs. Staffed by beginners who have had sufficient educational background and/or experience to qualify them to start in applications systems analysis and programming.

Job 031: Applications Programming Supervisor

Description: Supervises activities of applications programming personnel for a major project, several smaller projects, or a small department. Responsible for quality assurance. Makes decisions on personnel actions (hiring, terminations, promotions, etc.). Controls revenues and/or expenses within operating unit and responsible for meeting budget goals and objectives. Provides input to policy level direction regarding standards, budget constraints, etc.

Job 032: Applications Programmer – Lead

Description: Devises or modifies procedures t solve complex problems considering computer equipment capacity and limitations, operating time and form of desired results. Responsible for program design, coding, testing, debugging and documentation. Has full technical knowledge of all phases of applications programming. Also has duties instructing, directing and checking the work of other programming personnel. Responsible for quality assurance review. Acts as project leader for projects with small budgets or limited duration. Responsible for directing and monitoring the work of team members. Note: This position does not perform systems analysis functions.

Job 034: Applications Programmer – Senior

Description: Under general direction, devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time and form of desired results. Designs, codes, tests, debugs and documents those programs. Competent to work at the highest technical level of all phases of applications programming activities. Note: This position does not perform systems analysis functions.

Job 036: Applications Programmer – Intermediate

Description: Under general supervision, modifies moderately complex applications programs from detailed specification. Codes, tests, debugs and documents and maintains those programs. Competent to work on most phases of applications programming activities, but requires instruction and guidance in phases. Note: This position does not perform systems analysis functions.

Job 037: Applications Programmer - Associate

Description: Under immediate supervision, modifies applications programs from detailed specifications. Codes, tests, debugs, documents and maintains those programs   This level is staffed by beginners who have had sufficient educational background and/or experience to qualify them to start in applications programming. Note: This position does not perform systems analysis functions.

Job 041: Software Systems Engineering Supervisor

Description: Supervises activities of all software systems programming personnel for a major project, several smaller projects, or a small department. Responsible for quality assurance. Makes decisions on personnel actions (hiring, terminations, promotions, etc.). Controls revenues and/or expenses within operating unit and responsible for meeting budget goals and objectives. Provides input to policy level direction regarding standards, budget constraints, etc.

Job 042: Software Systems Engineer – Lead

Description: Formulates/defines specifications for complex software programming applications or modifies/maintains complex existing applications using engineering releases and utilities from the manufacturer. Responsible for program design, coding, testing, debugging and documentation. Usually responsible for applications dealing with the overall operation system, such as sophisticated file maintenance routines, large telecommunications networks, computer accounting and advanced mathematical/scientific software packages. Has full technical knowledge of all phases of software systems programming applications. Also has duties instructing, directing and checking the

work of other operating systems programming personnel. Responsible for quality assurance review and the evaluation of new and existing software products. Acts as project leader for projects with small budgets or limited duration.

Job 044: Software Systems Engineer - Senior

Description: Under general direction, formulates/defines specifications for complex operating software programming applications or modifies/maintains complex existing applications using engineering releases and utilities from the manufacturer. Designs, codes, tests, debugs and documents those programs. Usually responsible for applications dealing with the overall operating system, such as sophisticated file maintenance routines, large telecommunications networks, computer accounting and advanced mathematical/scientific software packages. Competent to work at the highest technical level on all phases of software systems programming. May assist other systems programmers to effectively utilize the system's technical software.

Job 046: Software Systems Engineer – Intermediate

Description: Under general supervision, works from specifications to develop or modify moderately complex software programming applications. Assists with design, coding, benchmark testing, debugging and documentation of programs. Applications generally deal with utility programs, job control language, macro, subroutines and other control modules. Competent to work on most phases of software systems programming applications, but requires instruction and guidance in other phases.

Job 047: Software Systems Engineer – Associate

Description: Under immediate supervision, works from specifications to assist in developing and modifying operating software programming applications. Assists with design, coding, benchmark testing, debugging and documentation of programs. Applications generally deal with utility programs, job control language, macros, subroutines and other control modules. May customize purchased applications and assist in maintaining program libraries and technical manuals. Staffed by beginners who have had sufficient educational background and/or experience to qualify them to start in operating systems programming.

Job 101: Database Manager/Administrator

Responsible for all activities related to the administration of computerized databases. Assigns personnel to various projects and directs their activities; reviews and evaluates their work and prepares performance reports. Confers with and advises subordinates on administrative policies and procedures, technical problems, priorities and methods. Consults with and advises users of the various databases. Projects long-range requirements for database administration and design in conjunction with other managers in the information systems function.

Prepares activity and progress reports regarding the database management section. Normally reports to the Corporate Information Systems Executive, Divisional Information Systems Executive or Director of Information Systems Operations.

Job 102: Database Analyst/Programmer – Senior

Under general direction, designs, implements and maintains complex databases with respect to JCL, access methods, access time, device allocation, validation checks, organization, protection and security, documentation, and statistical methods. Includes maintenance of database dictionaries, overall monitoring of standards and procedures, and integration of systems through database design. Competent to work at the highest level of all phases of database management.

Job 104: Database Analyst/Programmer – Intermediate

Under general supervision, designs, implements, and maintains moderately complex databases. Includes maintenance of database dictionaries and integration of systems through database design. Competent to work on most phases of database administration, but may require some instruction and guidance in other phases.

Job 105: Database Analyst/Programmer – Associate

Under immediate supervision, assists in the implementation and maintenance of databases. This level is staffed by beginners who have had sufficient educational background and/or experience to qualify them to start in database management.

Job 107: Data Administrator

Responsible for quality control and auditing of databases to ensure accurate and appropriate use of data. Works with management to develop database strategies to support company's needs. Consults with and advises users of the various databases. Works directly with users of data to resolve data conflicts and inappropriate data usage. Identifies opportunities for effectively satisfying corporate information needs through automation. Directs the maintenance and use of the corporate data dictionary. Normally reports to Database Manager/Administrator.

Job 122: Documentation Specialist – Senior

Under general direction, is responsible for preparing and/or maintaining systems, programming and operations documentation, procedures and methods, including user manuals, reference manuals, etc. Maintains a current internal documentation library. Provides or coordinates special documentation services as required. Competent to work at the highest level of all phases of documentation. May act as project leader for large jobs.

Job 180: Data Security Administration Manager

Description: Directs and implements the necessary controls and procedures to cost-effectively protect information systems assets from intentional or inadvertent modification, disclosure or destruction. Provides guidance and direction for the physical protection of information systems assets to other functional units. Provides reports to superiors regarding effectiveness of data security and makes recommendations for the adoption of new procedures. Assigns work to subordinates, monitors performance, and conducts performance appraisals. Interviews and make recommendations for additional staff. Typically reports to Corporate Information Systems Executive or Director of Information Systems Operations.

Job 181: Data Security Analyst

Description: Under limited supervision, performs all procedures necessary to ensure the safety of information systems assets and to protect systems from intentional or inadvertent access or destruction. Interfaces with user community to understand their security needs and implements procedures to accommodate them. Ensures that user community understands and adheres to necessary procedures to maintain security. Conducts accurate evaluation of the level of security required. Provides management with status reports. Typically reports to Data Security Administration Manager.

Job 340: Web Project Manager

Serves as project manager of a development team responsible for planning, developing, and deploying web sites including preparation of text, graphics, audio, and video for web pages. Works directly with partners and clients to determine project scope and specifications. Coordinates the work of design and development teams to implement online designs. Reviews progress. Manages resources, and ensures overall quality of completed web site. Typically requires a college degree in computer science or related field, experience in management, and understanding of web technologies.

Job 345: Web Designer

Designs and builds web pages using a variety of graphics software applications, techniques, and tools. Designs and develops user interface features, site animation, and special-effects elements. Contributes to the design group's efforts to enhance the look and feel of the organization's online offerings. Designs the website to support the organization's strategies and goals relative to external communications. Typically requires a college degree in fine arts or graphic design. Requires understanding of web-based technologies and thorough knowledge of HTML, PhotoShop, Illustrator, and/or other design-related applications.

Job 350: Web Software Developer

Designs, develops, troubleshoots, debugs, and implements software code (such as HTML, CGI, and Javascript) for a component of the website. Works with graphic designers and other members of a project team to develop the site concept, interface design, and architecture of the website. Responsible for interface implementation. Requires strong navigation and site-design instincts. Typically requires college degree in computer science or related field, and developmental experience in web-based languages.

Job 355: Web Technical Administrator

In role of onsite administrator, responsible for achieving overall technical integrity of organization's website. Maintains and upgrades hardware and software including website technical architecture related to hardware and telecommunication connectivity. Administers e-mail, chat, and FTP services. Communicates router configuration changes and troubleshoots system errors and bugs. Maintains servers, creates monitoring reports and logs, and ensures functionality of links. Monitors site for acceptable performance and user accessibility. Establishes backups and monitors site security. Typically requires college degree in computer science or related field and experience in systems technologies.

Job 360: Web Content Administrator

Responsible for developing and providing content that will motivate and entertain users so that they regularly access the website and utilize it as a major source for information and decision making. Responsible for managing/performing website editorial activities including gathering and researching information that enhances the value of the site. Locates, negotiates, and pursues content. Seeks out customers to gather feedback for website improvement and enhancements. Typically requires a college degree in English, Journalism, Graphic Design, Communications, or related field. Requires experience in production management, web page design, HTML, and web graphics types and standards.

Job 365: Web Security Administrator

Under limited supervision, performs all procedures necessary to ensure the safety of the organization's website and transactions across the internet. Applies Internet Firewall technologies to maintain security. Ensure that the user community understands and adheres to necessary procedures to maintain security.